TESTIMONY
BEFORE THE
COMMITTEE ON GOVERNMENT REFORM
UNITED STATES HOUSE OF REPRESENTATIVES
BY
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Good morning, Chairman Davis, Congresswoman Norton, and Members of the Committee. My name is Charlie Crowder and I am the General Manager of the Fairfax County Water Authority. I have over 30 years experience in planning, building and operating major metropolitan water systems. My academic background includes a technical undergraduate degree from Virginia Military Institute and a graduate degree in public administration from George Washington University. I am pleased to be here this morning to discuss Tropical Storm Isabel and its impact on the Fairfax County Water Authority and the customers we serve.

Introduction

Fairfax County Water Authority is one of the 25 largest drinking water utilities in the country. It is Virginia's largest water utility, providing water to about one out of every five Virginians who obtain water from a public utility. Approximately 1.2 million people in the Northern Virginia communities of Fairfax, Loudoun, Prince William, Alexandria, Herndon and Vienna use our water. In addition, we provide water to Ft. Belvoir, the Washington Dulles International Airport complex and many federal government facilities within our service area.

The Water Authority operates two water treatment plant complexes with a rated capability of producing 262 million gallons per day. Our plants are located on the Potomac River and on the impounded Occoquan River. The Occoquan plants will be replaced in 2004 by a new, state-of-the-art water treatment plant, currently under construction.

General

Drinking water systems frequently face power outages caused by storms, icy weather, high winds and similar natural causes. Systems that must respond to these types of outages, like ours, are generally well prepared with extensive system architecture, along with trained and knowledgeable personnel. Outages generally caused by severe weather tend to be of relatively short duration, or impact only a relatively small portion of a system. It is highly unusual for weather conditions such as Isabel to have such a devastating impact and to result in power supply failures like the one we experienced. In fact, it was the first time in the 50 year history of the Fairfax County Water Authority that we lost all the power feeds to our treatment plants.

Key elements that drinking water systems use to weather typical power outages include multiple power feeds, backup power, redundant facilities, and system storage. Most drinking water systems have elevated storage tanks that can provide short-term water service even when the ability to produce treated water is lost.

Tropical Storm Isabel

I want to recap what occurred two weeks ago, and then describe some important reliability improvements that the Fairfax County Water Authority has initiated in recent years. Also, I would like to mention some prospective facility improvements that we are re-examining in the wake of Isabel.

Fairfax County Water Authority entered the day of the storm's arrival with our employees mobilized, facilities fully operational and all of our storage tanks full. The water system performed well during the initial stages of the storm. We experienced

intermittent power outages, but these impacted only individual facilities and were quickly restored by the power company and our redundant features off-set the impacts. However, late on Thursday, September 18, all electrical power was lost to all four treatment plants. The water storage held our system for the next five hours. By 4 a.m. on Friday some of our customers began to experience low water pressure and the potential for contamination from siphonage became possible. Out of an abundance of caution, our customers were advised to boil that small portion of their water that they wanted to drink. Most domestic water is used for bathing, washing clothes and flushing toilets, and only a relatively small portion is consumed.

During the early morning hours of September 19, the water system status, the impending loss of system pressure, and "boiled water notice" possibilities were coordinated with the Virginia Department of Health, the Fairfax County Executive, Fairfax County Fire Chief, the Fairfax County Health Department and our counterparts in Loudoun and Prince William Counties, among others. The news media were informed through our Public Affairs Office as well as that of Fairfax County. We used our web site as well as our reinforced customer service operations to personally answer calls that began pouring into the Water Authority.

During this entire time, Dominion Virginia Power responded with priority service to the Water Authority. The power company worked through the storm to restore power to our facilities. Despite those efforts, it still took over 13 hours to get power to our Potomac plant with the other plants regaining power several hours later. In total, customers who awoke Friday morning to no water had their service fully restored by Friday evening. With the exception of the inconvenience of boiling water needed for direct consumption, all water services were restored in about the same amount of time it takes to fix a major water main break. However, the fact that this was a *systemwide* outage of 13 hours made it serious indeed, and it is an event that we will take steps to see does not occur again. We must have virtually uninterruptible power for the system by one means or another.

After two consecutive days of sampling water from the retail and wholesale service areas, we demonstrated to the satisfaction of the State of Virginia and Fairfax County Health Departments that our system was not, and never was, contaminated. The Boil Water Advisory was lifted at 7 p.m. Sunday, September 21.

Mr. Chairman, a 13-hour power outage for a public water system is significant. Fairfax County Water Authority does not believe this is acceptable nor do we believe that Dominion Virginia Power does. The reasons behind the delay in regaining power to the water system need to be examined and preventative measures put in place. A stable and reliable power supply is essential to water service in this area and to the vast majority of drinking water systems around the country.

System Improvements

Throughout our history, we have made improvements to increase the reliability of our water system. We have two sources of water, two treatment complexes with similar production capacities at opposite ends of our service area and a strong interconnected transmission system that allows us to move water from the treatment plants to where it is needed. These are protections enjoyed by only a handful of major water utilities.

We have done many things in past years to reinforce our electrical power reliability. For example, our Potomac plant has dual feeds serving it, with one of these services placed underground to avoid wind-storm outages. Next year when we bring a new 120 million gallons per day water treatment facility on line in Lorton, Virginia, we will further increase our power supply reliability. We took the initiative with this new plant to incorporate our own electrical power substation, served directly from the national power grid. With this direct connection, this new plant will have extraordinary power reliability.

The Future

Looking to the future, we are again reexamining constructing more elevated storage tanks to provide for longer service times, on-site emergency power generation at

our facilities, and power from one of Fairfax County's incinerators to serve as an emergency back-up at one of our plants. We estimate that the cost of on-site emergency power generation could cost as much as $50 million and will require a significant increase in our water rates.

Although the feasibility and cost of these options has been considered in the past, we feel it is important to re-evaluate previous assumptions and examine new ones in light of the events of Isabel. Just like "9/11" caused the nation to evaluate afresh the vulnerabilities of its critical infrastructure, recent storm events and their ability to overwhelm system redundancies, require that we re-examine all options. In fact, we have already engaged a nationally recognized engineering firm to conduct as assessment of options and recommended actions that will allow us to prevent another situation like the one inflicted on us by Isabel.

In addition to working with the power company, Fairfax County Water Authority will also be re-examining agreements with other critical suppliers of things like telecommunications to ensure support and responsiveness during natural and manmade emergencies.

Conclusion

Members of the Committee, in closing, let me recognize that the tie between the power and water sector is one of the key infrastructure interdependencies under study at the National level and among drinking water suppliers. The National Infrastructure Advisory Council has established a Task Force to develop recommendations on critical infrastructure interdependencies including drinking water. In addition, Fairfax County Water Authority, along with the Association of Metropolitan Water Agencies and the Water Information Sharing and Analysis Center are gathering information on the mid-August Northeast power outage and the Isabel storm power outage in order to better prepare for events in the future.

Thank you for this opportunity to address the committee. I would be happy to answer yours questions.